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WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

an active element provided on a semiconductor substrate;

an interlayer insulating film formed so as to cover said active element;

a pad metal for an electrode pad, said pad metal being provided on said interlayer insulating film;

a barrier metal layer provided on said active element with said interlayer insulating film therebetween, so that said pad metal is provided on said barrier metal layer; and

an insulating film having high adherence to said barrier metal layer, said insulating film being provided between said interlayer insulating film and said barrier metal layer.

2. The semiconductor device as set forth in claim 1, wherein said insulating film is a silicon nitride film.

3. The semiconductor device as set forth in claim 1, wherein said insulating film has a slit for letting gas generated from said interlayer insulating film pass therethrough.

4. The semiconductor device as set forth in claim 1, wherein said insulating film is one among at least a silicon oxide film, a phospho-silicate glass film, a boron phospho-silicate glass film, and a non-dope silicate glass film.

5. The semiconductor device as set forth in claim 2, wherein the silicon nitride film is formed by the plasma chemical vapor deposition method.

6. The semiconductor device as set forth in claim 1, wherein said barrier metal layer is a layer made of a titanic chemical compound.

7. The semiconductor device as set forth in claim 6, wherein said barrier metal layer is a titan-tungsten layer.

8. The semiconductor device as set forth in claim 1, wherein said interlayer insulating film is a trilaminar insulating film having first, second and third layers, the first and third layers being insulating films containing silicon, the second layer being a level difference compensating film.

9. The semiconductor device as set forth in claim 1, wherein said interlayer insulating film is a trilaminar insulating film composed of a silicon nitride film, a film formed by the spin-on-glass method, and a silicon oxide film which are laminated in this order.

10. The semiconductor device as set forth in claim 1, wherein said interlayer insulating film is a trilaminar insulating film composed of a tetra ethoxy silane film, a film formed by the spin-on-glass method, and a tetra ethoxy silane film which are laminated in this order.

11. The semiconductor device as set forth in claim 1, wherein:

said interlayer insulating film has at least a level difference compensating film for compensating a level difference of a metal wire formed under said interlayer insulating film; and

a portion of said level difference compensating film under said pad metal is removed.

12. The semiconductor device as set forth in claim 1, wherein:

said interlayer insulating film has at least a level

difference compensating film for compensating a level difference of a metal wire formed under said interlayer insulating film; and

said level difference compensating film is formed to a minimum thickness necessary for compensating the level difference of the metal wire.

13. A semiconductor device as set forth in claim 1, further comprising a passivation film, said passivation film being formed on said pad metal so as to cover a large part of said pad metal.

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14. A semiconductor device, comprising:

an active element provided on a semiconductor substrate;

a metal wire provided on said active element;

a an interlayer insulating film covering ~~formed so as to cover~~ said active element;

a pad metal for an electrode pad, said pad metal ~~being provided~~ on said interlayer insulating film; and

a barrier metal layer provided on said active element with said interlayer insulating film therebetween, so that said pad metal is provided on said barrier metal layer,

wherein:

said interlayer insulating film has at least a level difference compensating film for compensating a level difference of the metal wire; and

a portion of said level difference compensating film under said pad metal is removed.

15. A semiconductor device, comprising:

an active element provided on a semiconductor substrate;

a metal wire provided on said active element;

an interlayer insulating film ~~formed so as to cover~~ covering said active element;

a pad metal for an electrode pad, said pad metal being provided on said interlayer insulating film; and

a barrier metal layer provided on said active element with said interlayer insulating film therebetween, so that said pad metal is provided on said barrier metal layer,

wherein:

said interlayer insulating film has at least a level difference compensating film for compensating a level difference of the metal wire; and

said level difference compensating film is formed to a minimum thickness necessary for compensating the level difference of the metal wire.

16. A semiconductor device as set forth in claim 14, further comprising a passivation film, said passivation film being ~~formed so as to cover~~ covering a large part of said pad metal.

17. A semiconductor device, comprising:

an active element provided on a semiconductor substrate; and

an interlayer insulating film formed so as to cover said active element,

wherein said interlayer insulating film has a quintuple layer structure, each of first, third and fifth layers thereof being a silicon nitride film or a silicon oxide film, while each of second and fourth layers thereof being formed by the spin-on-glass method.

18. The semiconductor device as set forth in claim 17, wherein said fourth layer of said interlayer insulating film, which is formed by the spin-on-glass method, is substantially completely removed by etching or grinding.

19. A semiconductor device, comprising:

an active element provided on a semiconductor substrate; and

an interlayer insulating film formed so as to cover said active element,

wherein said interlayer insulating film has a trilaminar structure, each of first and third layers thereof being a silicon nitride film or a silicon oxide film, while a second layer thereof being formed by the spin-on-glass method.

20. A semiconductor device, comprising:

an active element provided on a semiconductor substrate;

a lower interlayer insulating film formed so as to cover said active element;

a metal wire provided on said lower interlayer insulating film;

an upper interlayer insulating film formed so as to cover said metal wire; and

a pad metal for an electrode pad, said pad metal being provided on said upper interlayer insulating film,

wherein each of said lower and upper interlayer insulating films has a quintuple layer structure, each of first, third and fifth layers thereof being a silicon nitride film or a silicon oxide film, while each of second and fourth layers thereof being formed by the spin-on-glass method.

21. The semiconductor device as set forth in claim 20, wherein said fourth layer of said interlayer insulating film, which is formed by the spin-on-glass method is substantially completely removed by etching or grinding.

22. A semiconductor device, comprising:

an active element provided on a semiconductor substrate;

a lower interlayer insulating film formed so as to cover said active element;

a metal wire provided on said lower interlayer insulating film;

an upper interlayer insulating film formed so as to cover said metal wire; and

a pad metal for an electrode pad, said pad metal being provided on said upper interlayer insulating film,

wherein each of said lower and upper interlayer insulating films has a trilaminar structure, each of first and third layers of the trilaminar film being a silicon nitride film or a silicon oxide film, while a second layer of the trilaminar film being formed by the spin-on-glass method.

23. The semiconductor device as set forth in claim

22, wherein at least one of said lower and upper interlayer insulating films further includes a fourth layer formed by the spin-on-glass method and a fifth layer which is a silicon nitride film or a silicon oxide film, the fourth and fifth layers being laminated on the first through third layers.

24. The semiconductor device as set forth in claim 23, wherein said fourth layer of said interlayer insulating film, which is formed by the spin-on-glass method is substantially completely removed by etching or grinding.

25. A semiconductor device, comprising:

an active element provided on a semiconductor substrate;

a plurality of metal wires above said active element in a laminated form; and

interlayer insulating films each being provided between said metal wires,

wherein each interlayer insulating film has a multi-layer structure including at least a structure in which a film formed by the spin-on-glass method is sandwiched by insulating films each of which is either a silicon nitride film or a silicon oxide film.